WINCOR NIXDORF

CINEO C1020

Cash Management System

User Manual (October 2014)

We would like to know
your opinion on this publication.

Please send us a copy of this page
if you have any constructive criticism on:
- the contents
- the layout
- the product.

We would like to thank you in advance
for your comments.
With kind regards,

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Your opinion

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Delivery subject to availability; technical modifications possible.

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Introduction

With the CINEO C1020 Wincor Nixdorf offers an entry-level model for coin processing in cash offices. This system processes up to 8 coin denominations and recycles them; So that coins are available again for dispensing. Capacity per denomination averages 1,200 coins (based on the 1-euro coin).

The CINEO C1020 is suitable for use in midsized store formats such as supermarkets, discounters or specialty stores.

CINEO C1020 either installed as Stand Alone or as peripheral device.

About this manual

This symbol is used to mark important information in this manual.

Text following this symbol should be given special attention in order to avoid damage and injury.

Warranty

Wincor Nixdorf generally guarantees a warranty engagement for 12 months beginning with the date of delivery. This warranty engagement covers all damages which occur despite a normal use of the product.

Damages because of

- improper or insufficient maintenance,
- improper use of the product or unauthorized modifications of the product,
- inadequate location or surroundings

will not be covered by the warranty.

For further information on the stipulation consult your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement. For detailed warranty arrangements please consult your contract documents.

Unpacking and Checking the System

Unpack the system and verify that the scope of delivery is identical to the information on the delivery ticket.

Should you notice any

- transport damages or
- discrepancies between package contents and delivery ticket or
- functional defects,

please inform your contracting parties or the branch office of Wincor Nixdorf immediately. Please indicate the number of your delivery ticket and delivery ticket position and serial number of the respective device.

i It is absolutely necessary to check the function of the original equipment *before* you perform any changes (e.g. by installing an expansion card). Only then it is possible to accept a functional defect as a claim.

i We recommend to save the original packaging for transport at a later time (protection from impact and shock).

ESD (Electrostatic Sensitive Devices)

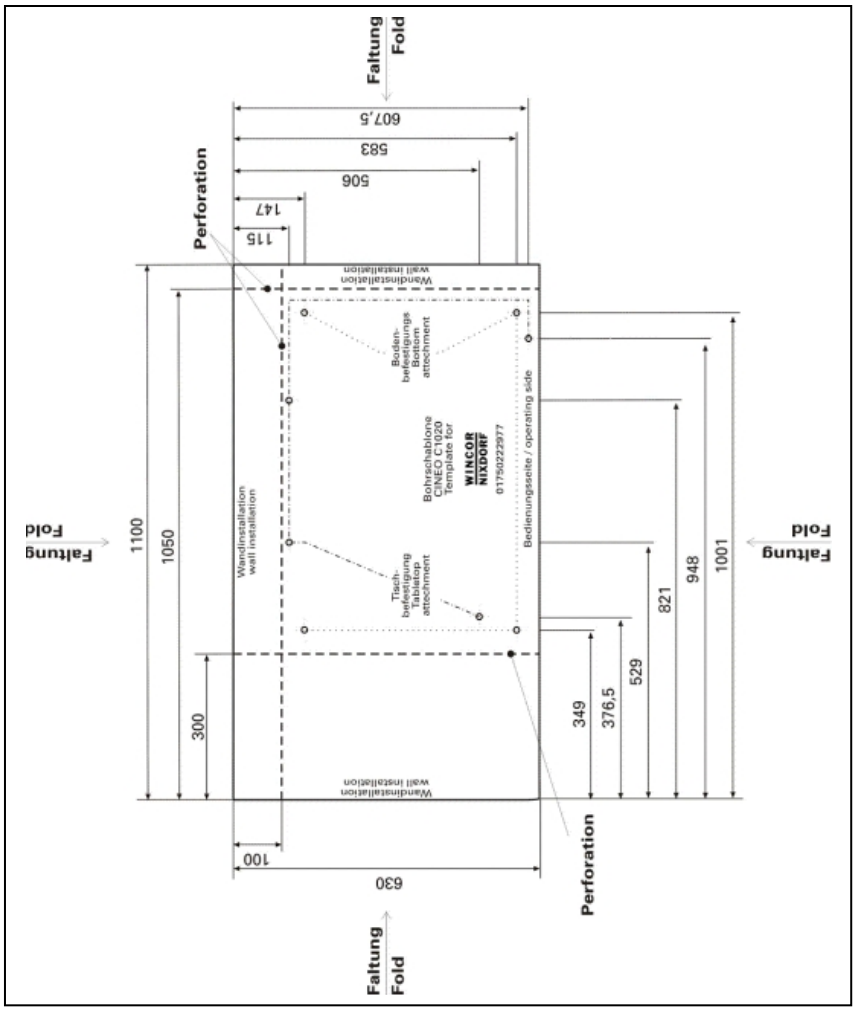
Assemblies containing electrostatic sensitive devices (ESD) *may* be labeled with this sticker.

When installing an assembly or drive, please follow the guidelines below, which apply to all electrostatic sensitive devices (ESD):

- Make sure you are not carrying a static charge before working with components marked as ESD by first touching a grounded object (such as a radiator from a hot water heating system).
- All tools and devices you use must be free from static charges.
- Always unplug the power cord before installing or removing any assemblies.
- Always handle assemblies by their edges.
- Never touch the terminal pins of the circuits on an assembly.

Fixing the device on the floor

Follow the dimensions in the illustration below to fix the CINEO C1020 on the floor.



Dimensions in mm

Removing the Transportation Locks

After unwrapping the system, remove the transportation locks from the components (see arrows).

Important Notes

The following safety instructions should be read carefully and strictly observed when handling technical appliances and before doing any work on the device. Further safety, installation, operating and maintenance instructions can be found in the manuals available on the internet:

http://www.wincor-nixdorf.com/internet/site_EN/EN/Support/Downloads/downloads_node.html

Should you have any questions, please contact your dealer or our service department.

Devices supplied by Wincor Nixdorf International GmbH (WN) comply with the respective safety regulations for data-processing devices and information technology devices, including electrical office equipment for use within an office or store environment.

- Always consult the installation and operating instructions before doing any work with an appliance. These **manuals** are available on the internet (see above).
- If an appliance is brought into the service area from a colder environment, condensation may occur. The appliance must be absolutely dry before activation. This requires an acclimatization time of at least two hours.
- Observe warning and information labels on the device.
- Appliances that are equipped with safety tested power cables must be plugged into a grounded socket.
- Always lay the supply leads and cables in such a way that they cannot be stepped on or tripped over.
- Make sure that there is always free access to the grounded sockets used or to the electrical circuit-breakers of the house installation.
- Check that the set nominal voltage of the appliance corresponds to the local mains voltage.
- In order to completely separate the appliance from the mains voltage, switch off the appliance and disconnect it from the mains.
- Ensure that no foreign objects (e.g. paper clips) or liquids enter the housing of the appliance. This may result in electric shock or short circuit.
- Always keep the ventilation slots free of obstruction to ensure adequate air circulation and avoid overheating.
- Data cables must not be plugged in or unplugged during electrical storms.
- Always hold the plug when removing the power cable or other cables. Never pull the cable itself. Have damaged power cables replaced immediately.
- Only use accessories and extension components that have been approved by Wincor Nixdorf. Nonobservance can result in damage to the device or violations of regulations concerning safety, radio interference and ergonomical requirements.
- Protect the appliance from vibrations, dust, moisture and heat.
- Transport the appliance only in its original packaging (to protect it against knocks and bumps).

- In case of an emergency (e.g. damaged cabinets, controls or power cables, liquids or foreign objects in the device) take the following steps:
  Deactivate the device immediately by:

  - Switching off the automatic circuit-breaker or removing the fuse inset from the fuse holder in the distribution box of the building installation;
  - Disconnecting the plug connector of the power supply cable from the grounded socket in the building installation.
  - Inform the customer service responsible for you.

- Properly dispose of worn out parts that may be environmentally hazardous (e.g. batteries).

- **If** a **lithium battery** is supplied with the appliance, ensure that the battery is replaced with an equivalent type. Otherwise there is danger of explosion! Lithium batteries may only be replaced with identical types or other types recommended by the manufacturer. Batteries must be disposed of according to **local regulations** on the disposal of **special waste**.

- Appliances may only be repaired by authorized technicians. Unauthorized opening of the housing or inexpert repairs can result not only in considerable personal danger, but will also invalidate your warranty and liability protection.

LCD Displays

If the display element is damaged and the liquid crystal solution leaks out onto your hands or clothing, please wash your hands or clothing immediately under running water for at least 15 minutes, using soap or alcohol. If the liquid comes into contact with your eyes, consult a **medical doctor immediately.** Inside the display, the high voltage needed for backlighting the LCD display is generated by the inverter!

High Voltage!

Before opening the device, make sure, that the device is **disconnected** from the main power supply. Only authorized personnel is permitted to open the device.

Connecting the CINEO C1020

The delivered system is completely configured. There are just a few things to do, before starting up the CINEO C1020.

Start up

The power supply system must be equipped with separately guided protective earth conductor (PE). This kind of electricity system is known as TN-S network. Do not use PEN conductors!

Ratings of CINEO C1020:

- 220 V-240 V; 50-60 Hz, 0,5 A
- 110 V-120 V; 50-60 Hz; 1.0 A

⚠ Caution! Check that the set nominal voltage of the appliance corresponds to the local mains voltage.

CINEO C1020 Stand Alone

Power Connection and LAN Support

The CINEO C1020 supports Ethernet 10/100 BASE-T local area network (LAN) communication protocol. The CINEO C1020 provides a female RJ-45 connection port for the LAN. A 6-foot LAN cable is provided with the system.

LAN and power supply: will be connected at the back side of the device.

1	Remove the cover at the back side of the device (see arrow).	

2	Connect the rubber connector to the socket outlet and the LAN cable to the LAN socket (sockets at the side of the device).	

* Deviations from illustration possible

After starting up the system, you will see the start screen of the operating system.

Disconnecting the System from the Mains

- Shut down the system by the software application.

Caution! To separate the device completely from power supply unplug the power cable at the back side of the device.

CINEO 1020 as Peripheral Device

Power Connection

The Power supply will be connected at the back side of the device.

1	Remove the cover at the back side of the device (see arrow).	

2	Connect the rubber connector to the socket.	
3	Connect now the CINEO C1020 with the external unit via an RS232 cable.	

* Deviations from illustration possible

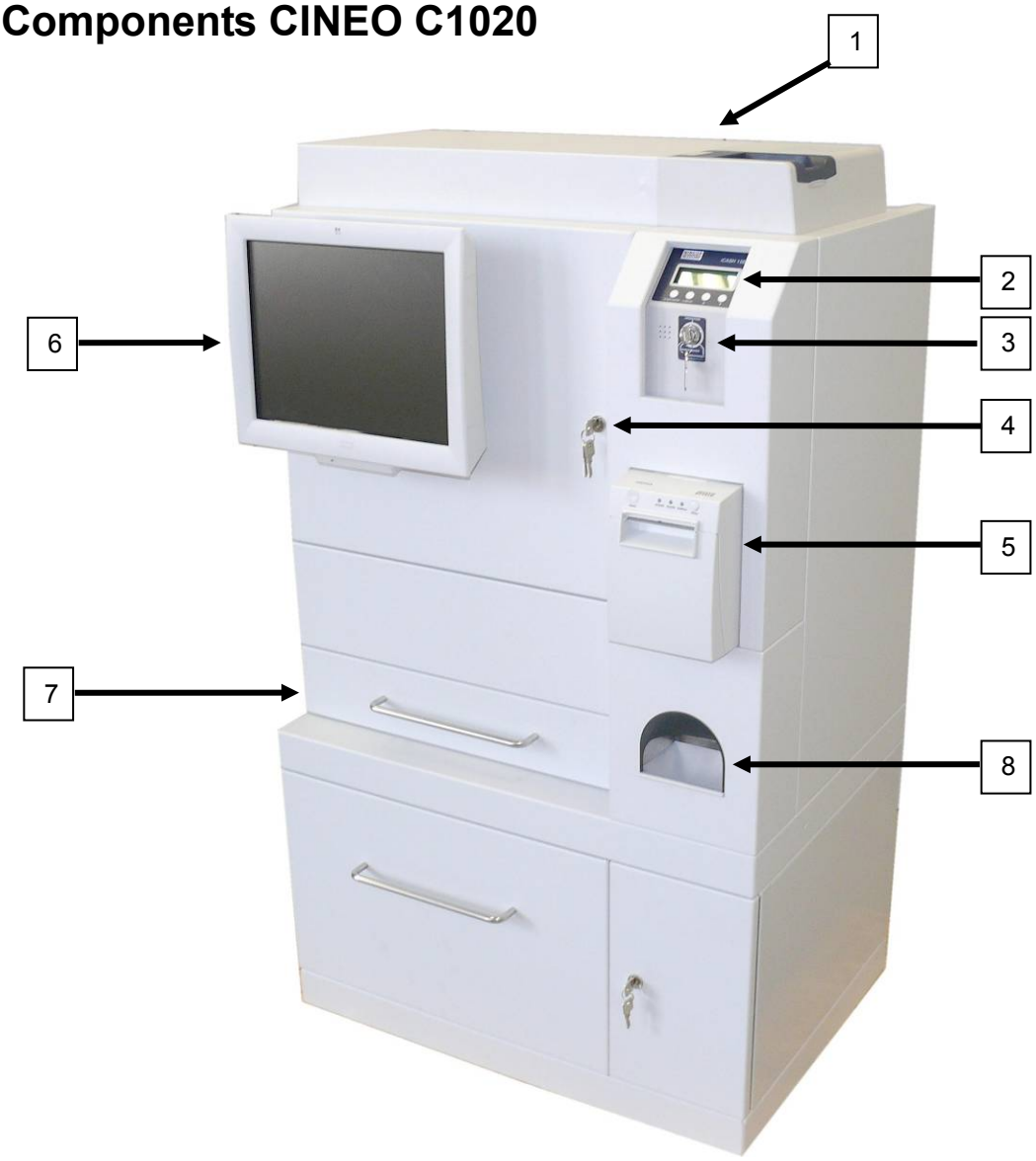
After starting up the system, you will see the start screen of the operating system.

Disconnecting the System from the Mains

- Shut down the system by the software application.

Caution! To separate the device completely from power supply unplug the power cable at the back side of the device.

Components CINEO C1020



1	Coin In	5	Printer TH230
2	Display Coin Module	6	Screen
3	Lock Coin Module	7	Coin Out
4	Access PSU, PC, Coin Module	8	Reject

CINEO C1020 Trolley Variant

The CINEO C1020 is also available mounted on a trolley for flexible placement.

Coin Module

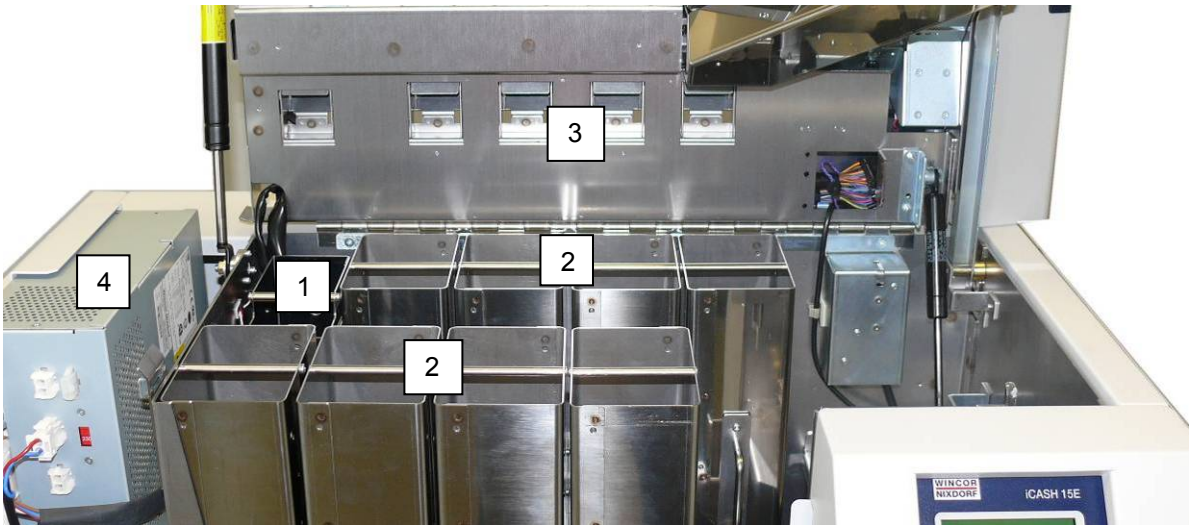
Device Overview

The coin module is a coin deposit / coin dispenser module which has been designed for indoor installation. The device is operated via the product-specific software for the system unit (PC) connected to the device.

Deposits are made by placing one or more coins in the coin entry tank. From here, they are transported to the separator disk. Coins are fed via the coin validator to the transport chain conveyor, where they are transported to the appropriate coin hoppers and stored. Coins of one denomination only can be stored in each coin hopper. The configuration of the eight available coin hoppers is preset in the factory and cannot be changed.

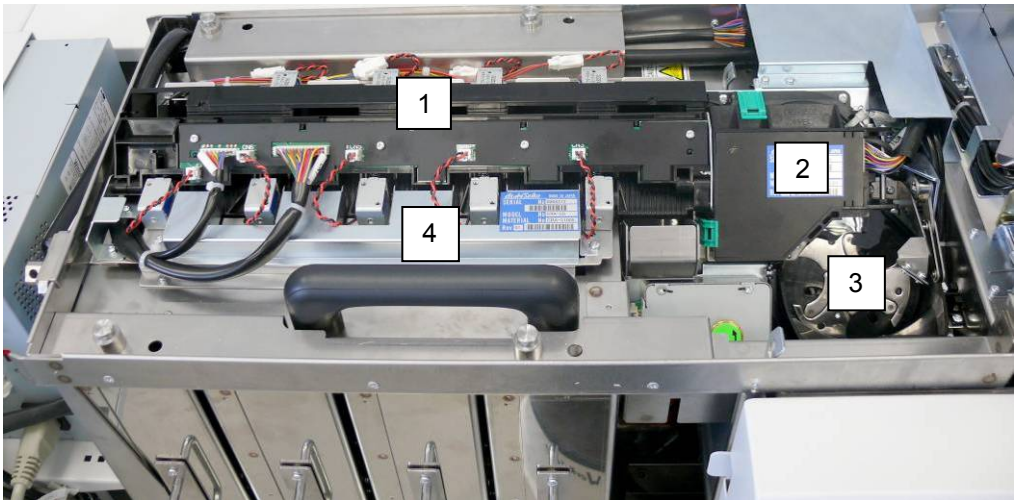
Coins are dispensed to the cash drawer from the coin hoppers.

Coin Module open



1	Overflow Box	3	Sorting Unit
2	Coin Hoppers	4	Power Supply

Operating Unit open

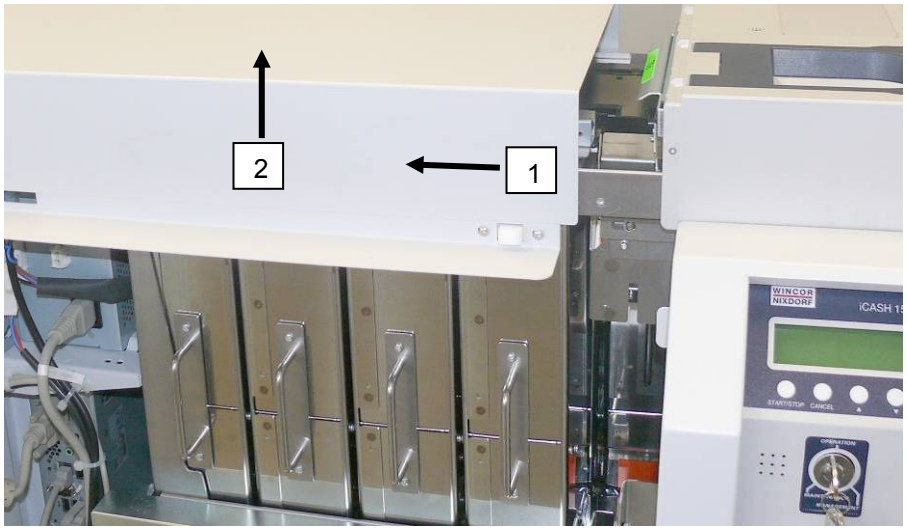


1	Transport Chain Conveyer	3	Separator Disk
2	Cover Coin Validator	4	Handle to raise the Unit

Access to the Coin Module

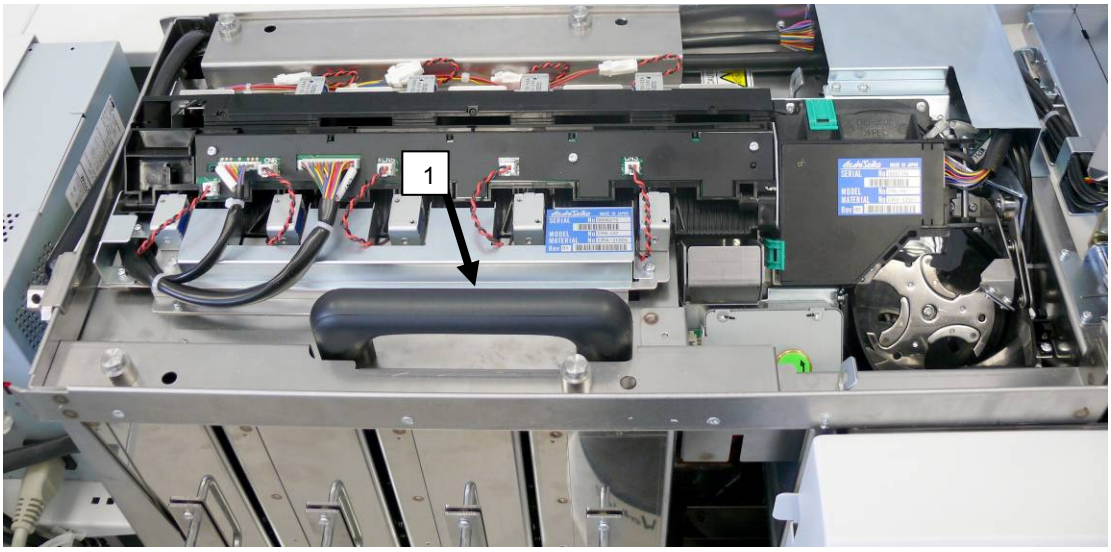
Plug the key into the lock, turn it to the left side and open the front door.

Push the cover to the left (1) and remove it upwards (2).



Turn the key to the right till the stop (see arrow). The unit willl be unlocked.

Raise the sorting unit by the black handle (1).



Lower the sorting unit with the black handle (1) until it locks in.

Basic Operation

General

To operate the coin module, you will need the application software, which is installed on the connected system unit (PC).

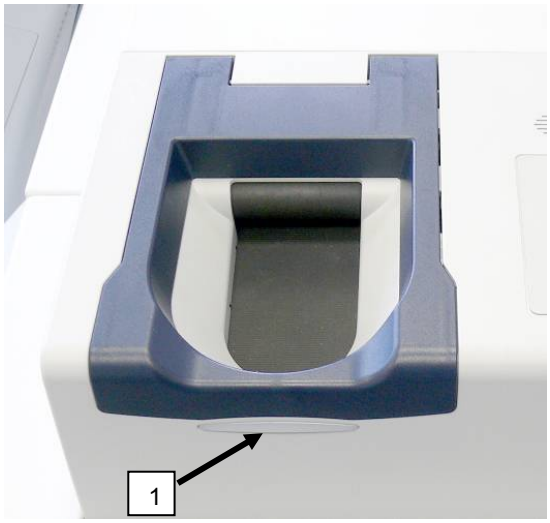
i You will not be able to carry out support/maintenance tasks without the product-specific software.

The product-specific software is necessary, for example, when you empty the coin hoppers.

The dialog for the product-specific software is executed via the system unit (PC).

Function elements

Status LED

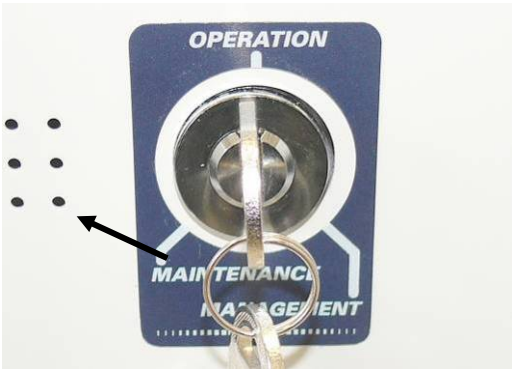


Status LED (1) displays the status of the cash module.

Status LED	Meaning
Green	The device is being supplied with power. The device is ready for operation.
Green blinking	The device is ready for deposit.
Yellow	A warning is displayed on the customer panel's display.
Blinking yellow	The device is ready to take coins and a warning is displayed.
Red	A problem has occurred.

In order to remedy a problem, see chapter "Malfunctions". If you cannot remedy the problem, contact Service.

Acoustic signals



Acoustic signals are output over the loudspeaker (1).

Modes

The Coin module provides three modes:

1 Operation
2 Management
3 Maintenance (for service technicians only)

Without a key, the cash module is at the Operation mode (1).
With the aid of the key, the Management (2) or Maintenance (3) mode can be selected.

In Management mode, the coin module can be cleaned or coin jams cleared.

The Maintenance mode is only intended for use by service staff.

Coin In

The hoppers can be filled either by inserting the coins directly into the coin entry tank or by using the filling unit (1).

When using the filling unit for inserting coins make sure that no more than 150 coins (unit = 1€) are in the filling unit (ca. **1 kg,** 2.68 pounds).

The coin types / sizes that the coin hoppers can handle are preset in the factory.

Currencies, Denominations and Coin Maximum

Europe EUR	**Denomination**	**Filling Level CINEO C1020 Coins**
	2	1000
	1	1200
	0,50	1150
	0,20	1550
	0,10	2100
	0,05	2100
	0,02	2850
	0,01	3000
Overflow Box	Based on 1	850

Norway NOK	**Denomination**	**Filling Level CINEO C1020 Coins**
	20	1300 (2 x 650)
	10	2600 (2 x 1300)
	5	2200 (2x1100)

	1	4000 (2 x 2000)
Overflow Box	Based on 20	450

Sweden SEK	**Denomination**	**Filling Level CINEO C1020 Coins**
	10	2200 (2 x 1100)
	5	1300 (2 x 650)
	1	4800 (4 x 1200)
Overflow Box	Based on 5	450

Denmark DKK	**Denomination**	**Filling Level CINEO C1020 Coins**
	20	1400 (2 x 700)
	10	1100
	5	650
	2	2600 (2 x 1300)
	1	2100
	0,5	2100
Overflow Box	Based on 20	500

Great Britain GBP	**Denomination**	**Filling Level CINEO C1020 Coins**
	2	600
	1	1000
	0,5	700
	0,2	1900
	0,1	1200
	0,05	2400
	0,02	1100
	0,01	2000
Overflow Box	Based on 2	400

Coin dispensing

The coin dispensing is controlled by the user specific application.

i Please refer to your software manual to get all important informations.

Emptying the overflow box

Open the sorting unit (see section "Access to the coin module").

Remove the overflow box (see arrow) and empty it.

Lower the sorting unit (see section "Access to the coin module").

Malfunctions

If a problem occurs or a warning is issued, the status LED will light up red or yellow. The messages are displayed on the LCD display of iteh coin module.

If the rejection rate of the coins rises, the coin validator must be cleaned.

Error messages and warnings

Problem	**Remedy**
CINEO C1020 cannot be started.	Check the position of the key, the 'Maintenance' position interrupts the power supply. Check whether the power supply unit is turned on. Check whether the cables are plugged in properly.
The PC cannot access the CINEO C1020 via the V.24 interface.	Check the position of the key; the 'Management' position rejects all commands from the PC. Check that the correct data rate is set in the 'Select I/F' menu (see chapter "Modes", section "'Select I/F' menu"). Check that the right COM interface is set for the PC. Check that the V.24 cable connecting the PC to the coin module is correctly inserted.
The PC cannot access CINEO C1020 via the USB interface.	Check the position of the key; the 'Management' position rejects all commands from the PC. Check that 'USB' is set in the 'Select I/F' menu (see chapter "Modes", section "'Select I/F' menu"). Check that the right USB interface is set for the PC. Check that the USB cable connecting the PC to the coin module is plugged in properly.

Message	Meaning	Remedy
no battery	Backup battery not available	Insert a new battery.
low battery	Backup battery is weak	Insert a new battery.
upgraded	Firmware updated	none
Restarted by WDT	Firmware malfunction	Carry out a firmware update.
Restarted by POS	Reset performed	none
E_21 – E_28	Despite a count result above zero, one coin hopper proves to be empty on payout attempt. The two-digit code names the coin hopper: 21=H, 22=G, 23=F, 24=E, 25=D, 26=C, 27=B, 28=A (see chart below)	Check/correct the counts of the coin hoppers.
E_30 – E_38	One cover of the sorting unit cannot be opened. The two-digit code names the coin hopper under the particular cover: 30=Reject, 31=H, 32=G, 33=F, 34=E, 35=D, 36=C, 37=B, 38=A (see chart below)	Check the sorting unit for jammed foreign objects and dirt. Carry out an operational check on the particular lifting magnet.
E_40 – E_48	One cover of the sorting unit cannot be closed. The two-digit code names the coin hopper under the particular cover: 40=Reject, 41=H, 42=G, 43=F, 44=E, 45=D, 46=C, 47=B, 48=A (see chart below)	Check the sorting unit for jammed foreign objects and dirt. Carry out an operational check on the particular lifting magnet.
E_51 – E_58	More coins than intended have been paid out. The two-digit code names the coin hopper: 51=H, 52=G, 53=F, 54=E, 55=D, 56=C, 57=B, 58=A (see chart below)	Check/correct the counts of the coin hoppers.

Message	Meaning	Remedy
E_90	CRS Board error	Restart the device. Replace the coin validator.
E_91	CRS Entry magnetic sensor error	During turn-on procedure a coin was located in the input tray. Remove the coin and restart the device.
E_92	CRS coin sensor error	During turn-on procedure a coin was located in the coin validator (magn. sensor). Remove the coin and restart the device.
E_93	CRS optical sensor error.	During turn-on procedure a coin was located in the coin validator (opt. sensor). Remove the coin and restart the device.
E_94	CRS flash ROM error	Reload the coin data or replace the coin validator.
E_A1 - E_A8	Payout sensor LOW error in one of the coin hoppers. The two-digit code names the coin hopper: A1=H, A2=G, A3=F, A4=E, A5=D, A6=C, A7=B, A8=A (see chart below)	Check/Clean the payout sensor in the particular coin hopper. Replace the coin hopper.
E_B1 - E_B8	Payout sensor HIGH error in one of the coin hoppers. The two-digit code names the coin hopper: B1=H, B2=G, B3=F, B4=E, B5=D, B6=C, B7=B, B8=A (see chart below)	Check/Clean the payout sensor in the particular coin hopper. Replace the coin hopper.

Message	Meaning	Remedy
E_C1 - E_C8	Payout sensor TIME error in one of the coin hoppers (detected signal too long/short). The two-digit code names the coin hopper: C1=H, C2=G, C3=F, C4=E, C5=D, C6=C, C7=B, C8=A (see chart below)	Check/Clean the payout sensor in the particular coin hopper. Replace the coin hopper.
E_D0	No overflow box	Insert the overflow box.
E_D1	Overflow box is ful	Empty the overflow box.
E_D2	The shutter beneath the separator disk is open.	Check whether the shutter of the separator disk shuts without any problems. Check the fork light barrier for dirt and foreign objects.
E_D3	Object in separator disk	Check the separator disk for foreign objects. Check/clean the transmitted light sensors (emitter/receiver) of the separator disk.
E_D4	The coin payout tray is not in the right position.	Check whether the coin payout tray is correctly lowered.
E_D5	Coin payout tray full	Empty the coin payout tray. Make sure the sensor is not covered.
E_D9	Jam in coin entry tank, separator disk, coin validator or on transport chain conveyor.	Clear the jam. Check the sensor both of the coin entry conveyor (close to the transport motor and the timing disk) and the coin validator.
E_DA	No dust box	Insert the dust box.
Shutdown in deposit	Reset after deposit problem	Check/correct the counts of the coin hoppers.
Shutdown in dispense	Reset after dispense problem	Check/correct the counts of the coin hoppers.

Eliminate Coin Jams

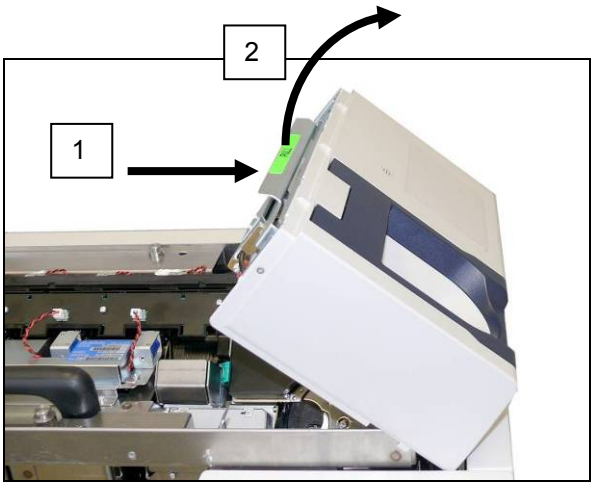
Coin entry Tank

Check to make sure that no coins are jammed in the coin entry tank (see arrow).

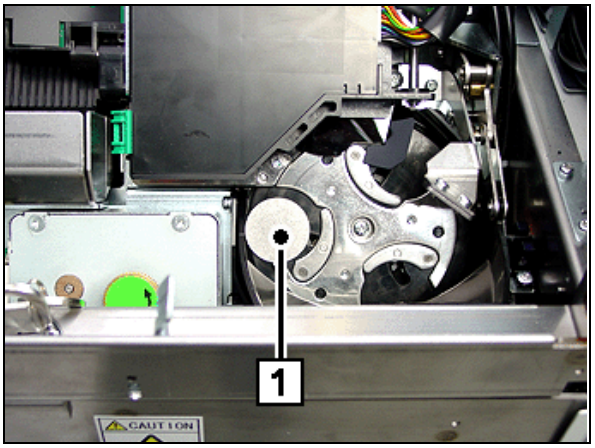
Clear the coin jam.

Separator Disk

Open the coin modul (see "Access to the Components").

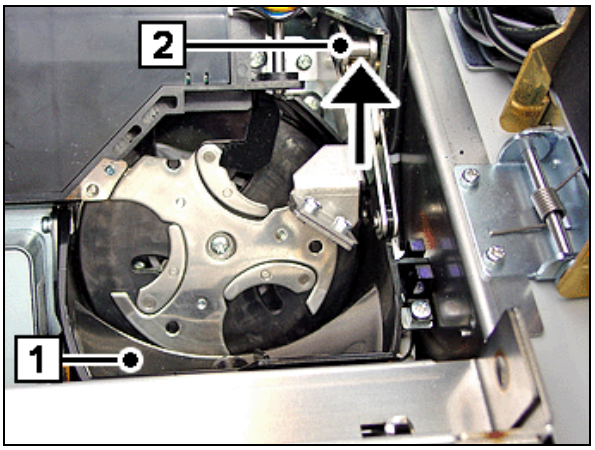


Lift up the green lever (1) and swing the operation unit open (2).



Check whether there are any foreign objects (1) in the separator disk and make sure that no coins are jammed.

Remove the foreign objects or coins.



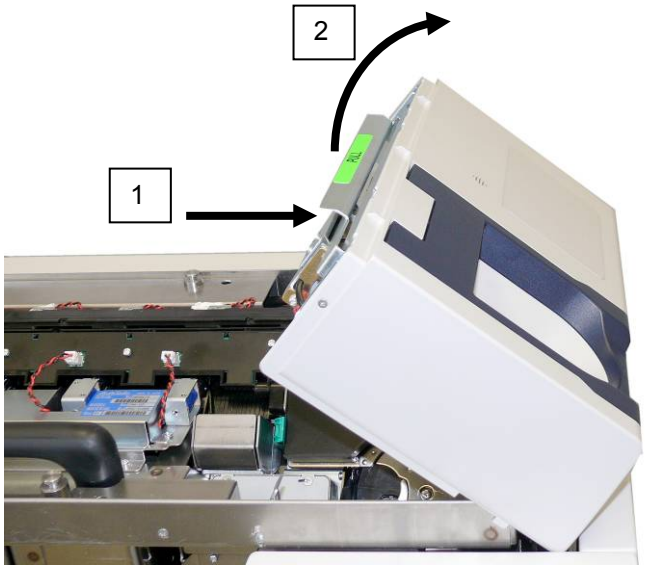
If foreign objects are jammed between the separator disk and the delivery flap (1) for the dust box, remove the foreign objects by pressing against the joint (2) as shown by the arrow in order to lower the delivery flap slightly.

Close the device in reverse order.

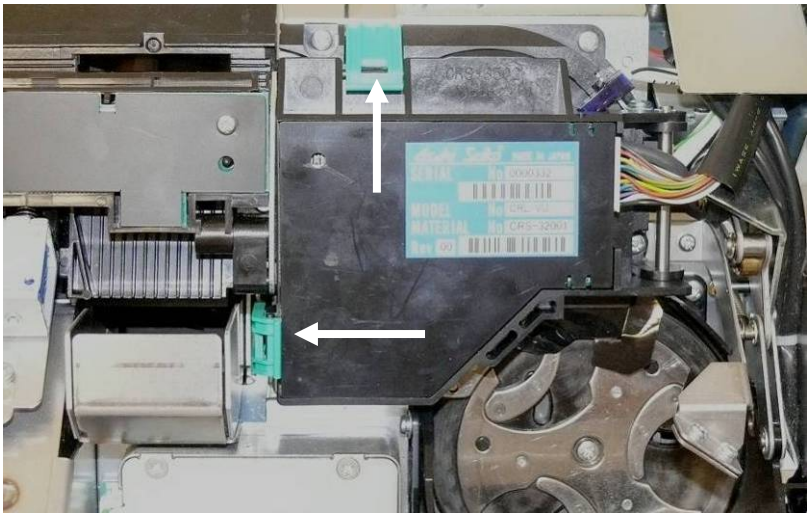
Coin Validator

Open the coin module (see section "Access to the coin module").

Pull the green lever (1) and swing the front operating unit open (2).

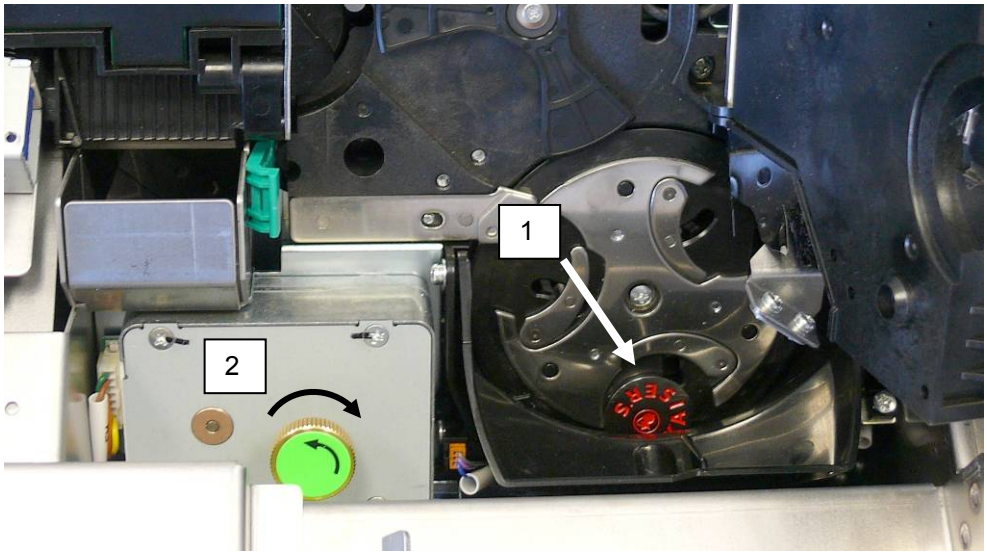


Unlock the green levers (arrows) and open the cover to the right.



Check whether there are any foreign objects (1) in the separator disk and make sure that no coins are jammed.

Remove the foreign objects or coins. If it is not possible in the position, turn the green whell to the left until you can remove it.

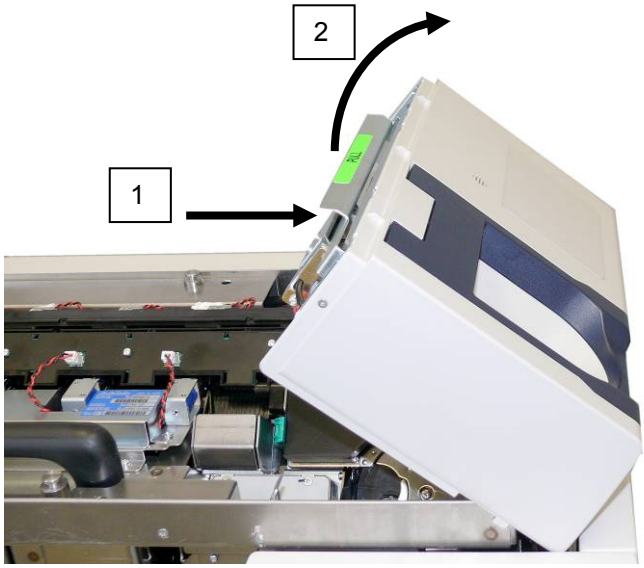


Close the separator cover and the device.

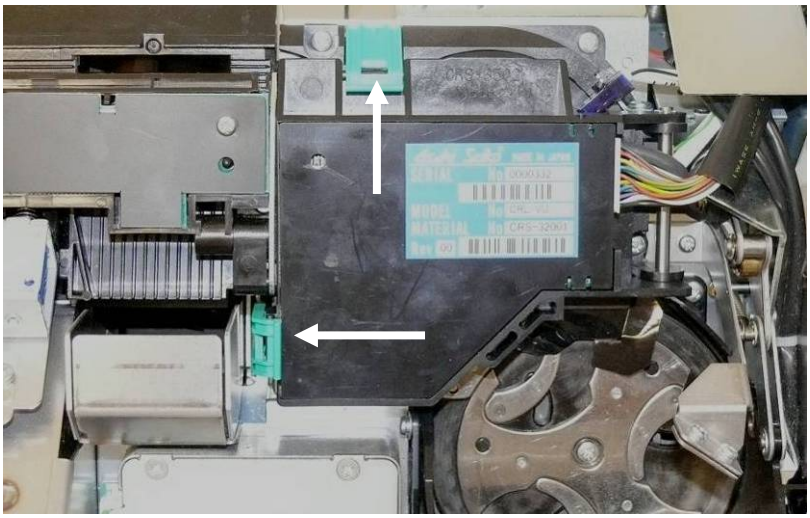
Transport Chain Conveyor

Open the coin module (see section "Access to the coin module").

Pull the green lever (1) and swing the front operating unit open (2).

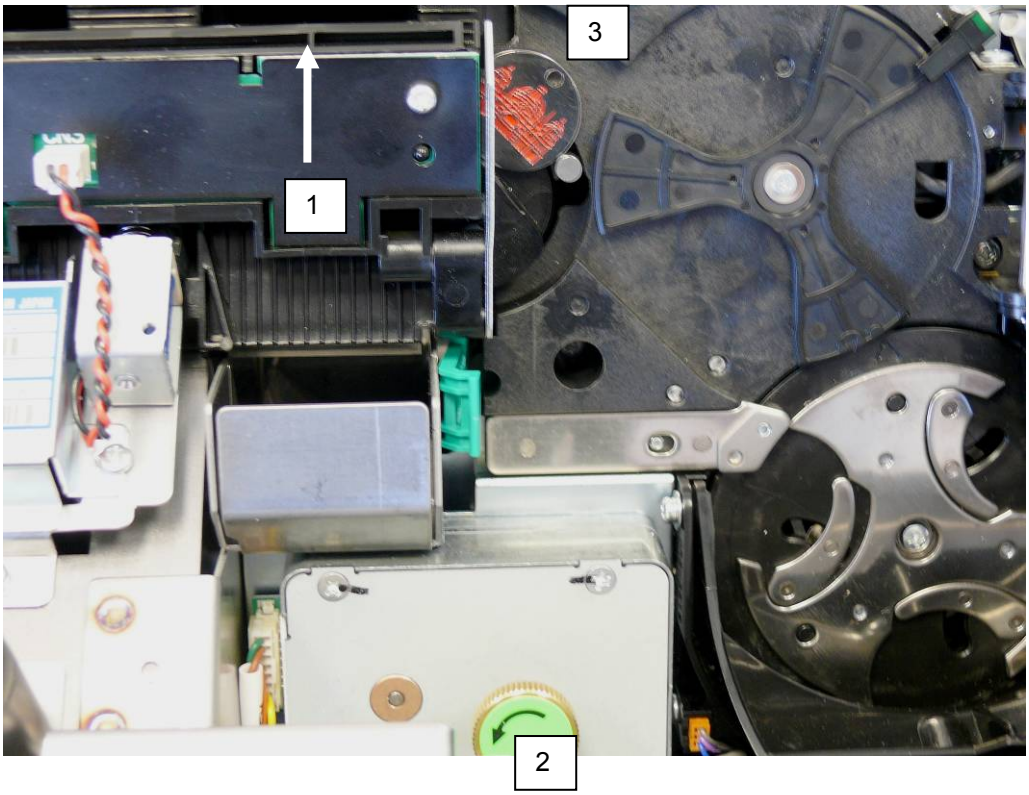


Unlock the green levers (arrows) and open the cover to the right.



Check the transport chain conveyor for jammed coins (1).

For this purpose open the cover of the coin validator to the right and keep it open while turning the green wheel counter-clockwise (2) and removing coins (3).



Close the coin validator cover again until you hear it lock into position.

Press the operating unit down and close the CINEO C1020.

Emptying a Coin Hopper

Open the coin module (see chapter "Access to the Coin Module").

Remove the relevant hopper upwards (example, see arrow). Empty the hopper and put it back in place.

i The coin hoppers are mechanically coded and therefore can only be inserted in appropriate position.

i To avoid inventory discrepancies the same amount of coins must be placed in the hopper.

Lower the sorting unit again and close the CINEO C1020.

Cleaning Instruction

Generell Informations

The device must be switched off for service and maintenance works.

You should service and clean the parts of the device at the specified intervals listed below.

In addition, please note the following:

- Take care not to drop any cleaning liquids into the device.
- Only use the cleaning material listed in this manual. Do not use thinners.

Find the resources and Order Numbers of the approved cleaning materials in the section «Approved Cleaning Materials».

Maintenance

- Check the dust box once a day and empty it, if necessary.
- Visually inspect of the coin hoppers and coin paths.
- Clean the coin paths.

Housing

Cleaning interval:		as needed
Cleaning material:		Wet cleaning cloths
	for stainless steel surfaces	Ballistol oil for cleaning stainless steel
	for varnished surfaces	Cleaning set for IT systems
	for plastic surfaces	Cleaning set for IT systems

Coin Paths

The conveyer belts must not come into contact with alcoholic solutions.

Clean the coin paths with compressed air.

Cleaning interval:	When necessary, at least once a month
Cleaning material:	Wincor Nixdorf air duster

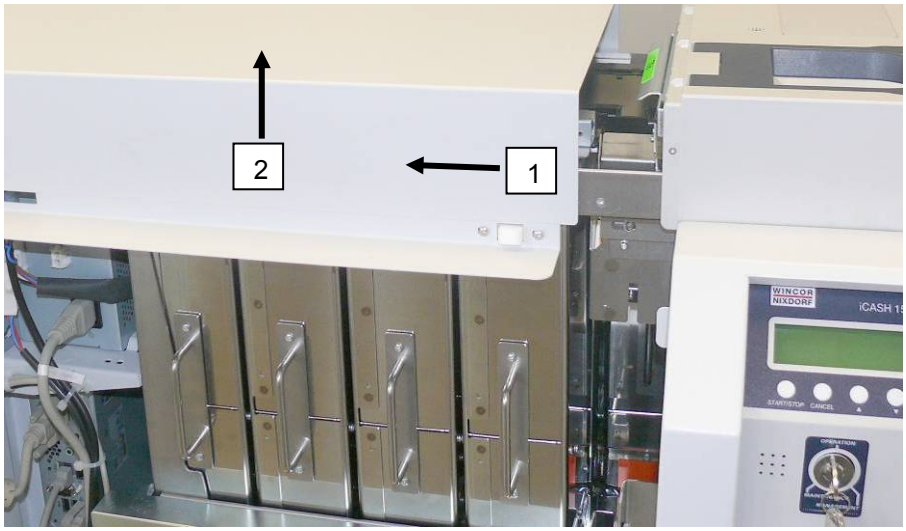
Coin Validator

Cleaning interval:	When necessary
Cleaning material:	Cloth moistured with isoprophylalcohol, cleaning brush, dry cleaning cloth

Coin Validator

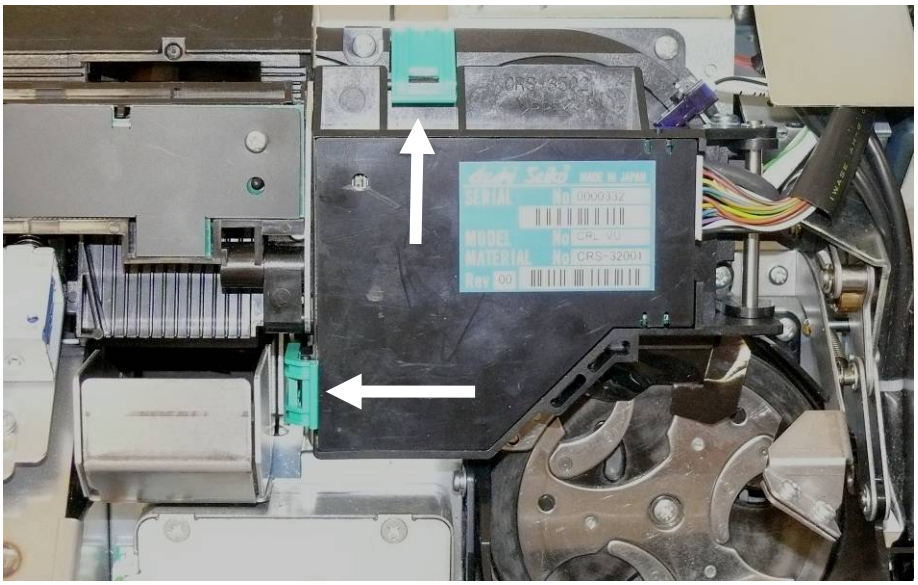
- Plug the key into the lock, turn it to the left side and open the front door.

- Push the cover to the left (1) and remove it upwards (2).



- Grab the green lever and open the front cover (1).

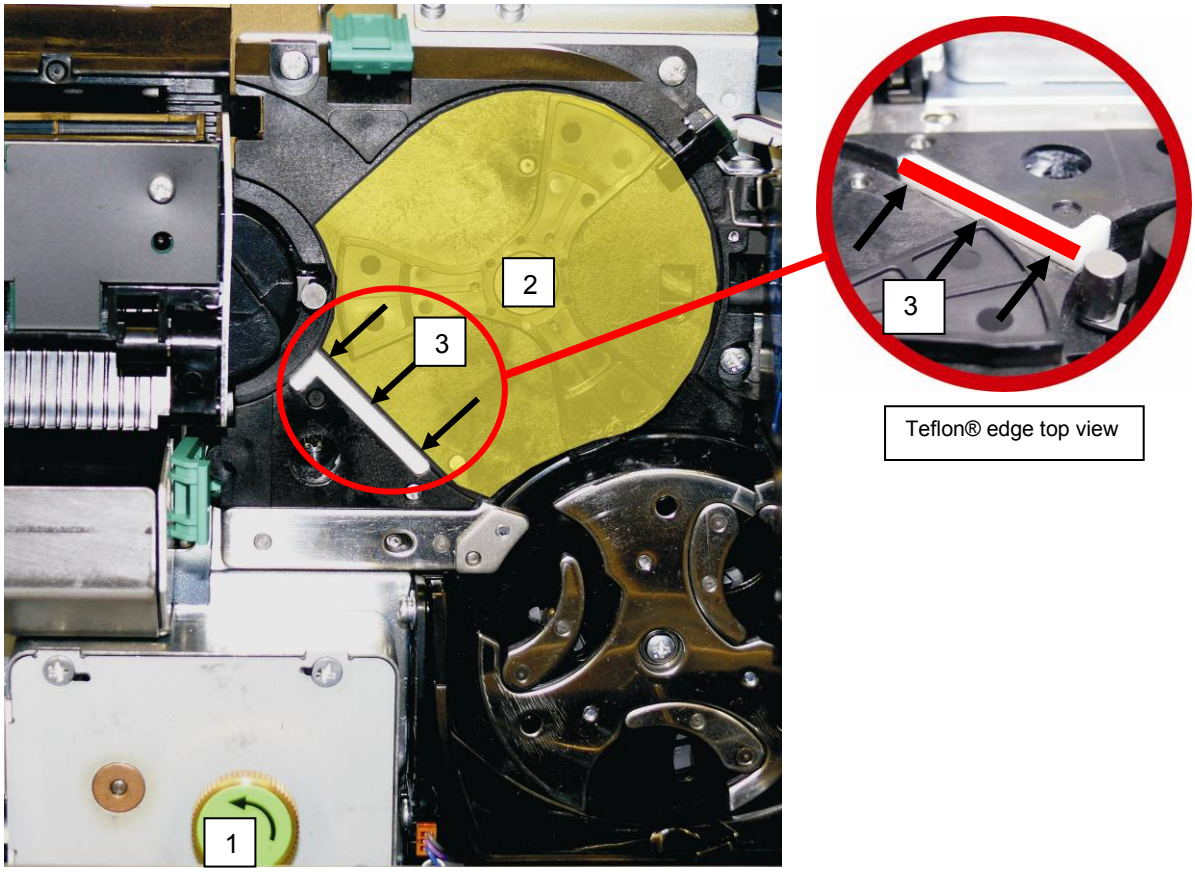
- Unlock the green levers (arrows) and open the cover to the right and hold it open.



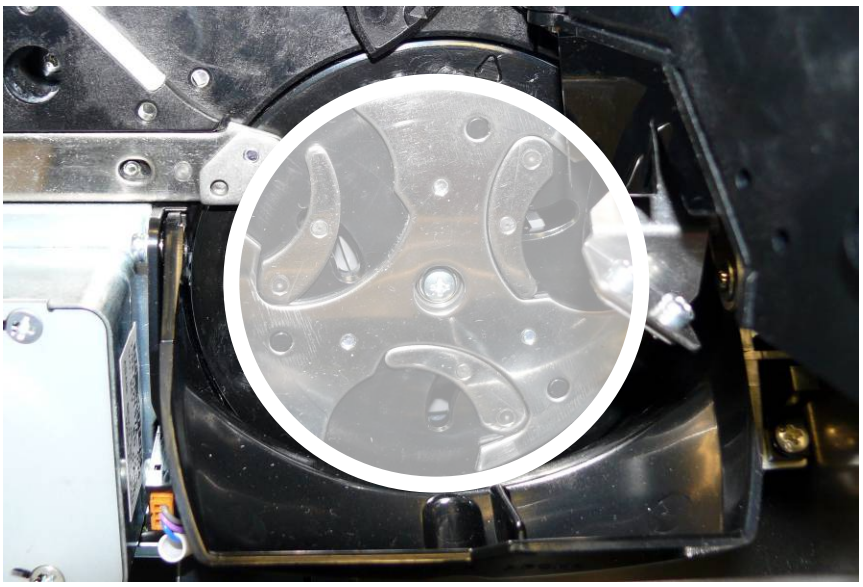
Use cloths moist with isopropyl alcohol, die cleaning brush and a lint-free cotton cloth. You can order all these materials from Wincor Nixdorf.

- Use the isopropyl alcohol cloth to remove crumbs and stuff and to dissolve fouling on the Teflon® edge (3). Then clean the area (yellow transparent) and the Teflon® edge (3) with the cleaning brush and dry the area with a lint-free cotton cloth.
- To clean the whole area, turn the green wheel (1) to move the rotor into a different position. Also clean the edges and surfaces of the rotor.

Never use knifes, scissors or any other sharp objects to clean the device as this may lead to damages and will void the Wincor Nixdorf warranty.



- Also mind to clean the silver wheel with the cleaning brush

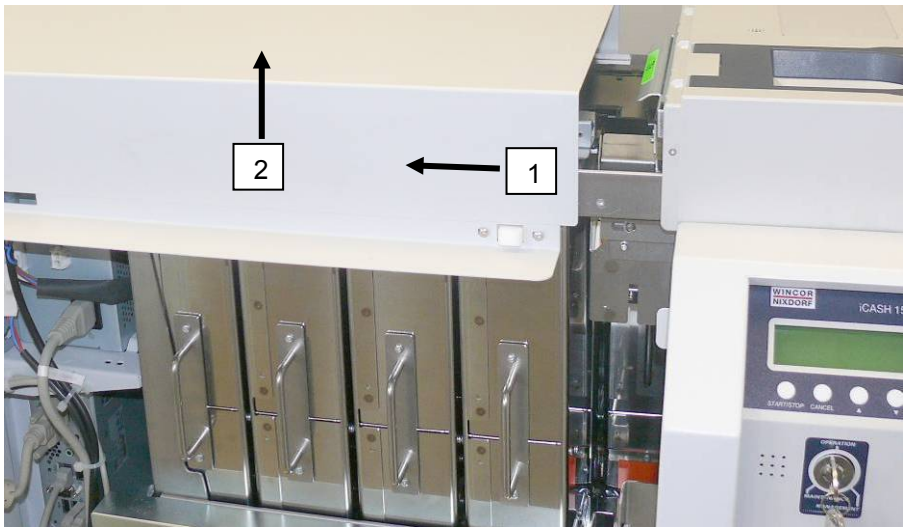


- Mount the device in logically reverse order.

Hopper Sensor

- Plug the key into the lock, turn it to the left side and open the front door.

- Push the cover to the left (1) and remove it upwards (2).



- Unlock the CINEO C1020 (1), move the cover at green lever a little to the right (2) and remove it upwards.
- Turn the key to the right (1). The unit opens to the top (2).

- Remove the hopper one after the other upwardly and clean the sensors (1) with a cloth moistened with isopropyl alcohol. You can order these cleaning materials from Wincor Nixdorf.

- Set the hoppers back in place and close the device.

Filling the Cash Drawer Money Compartment

Depending on your configuration one of the money compartments of cash drawers KA21 or Cash Bases Flip Lid 460 can be installed in the CINEO C1020.

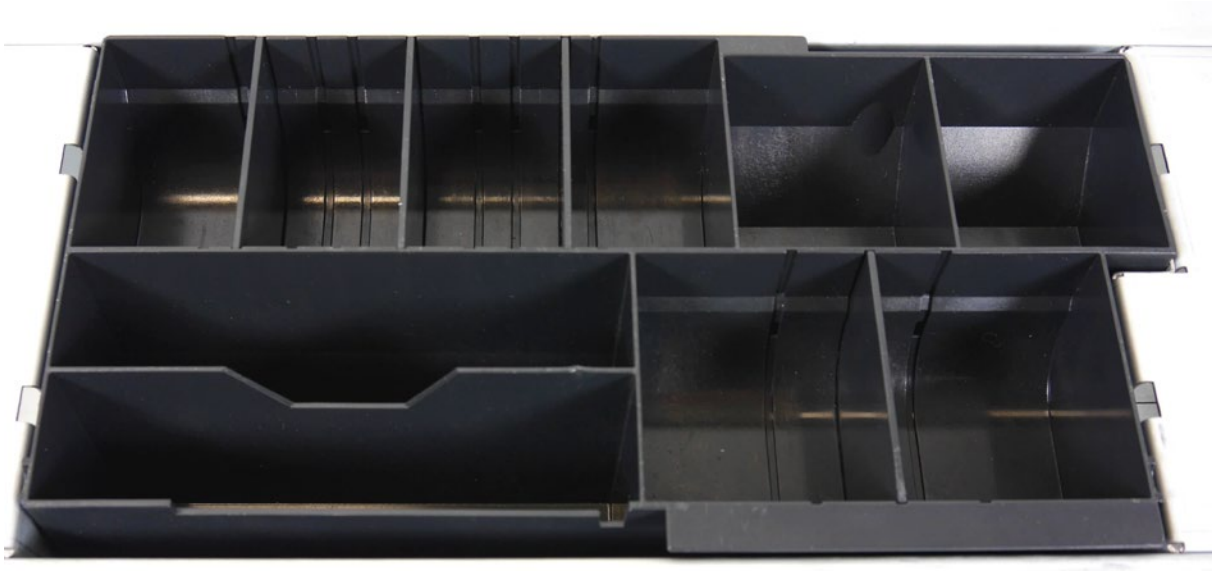
Pull out the money compartment unit.

Place your money compartment into the unit , e.g. some diffferent money compartments:

KAxx

Cash Bases Flip Lid 460

Universal compartment



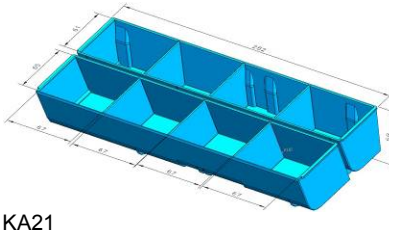
KA-EURO

Fill the compartment with coins via the software application.

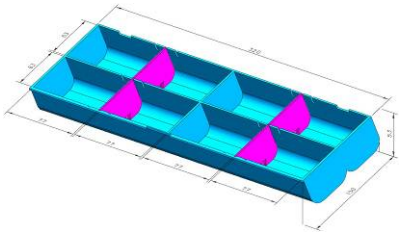
Capacities

KA16, KA17, KA21

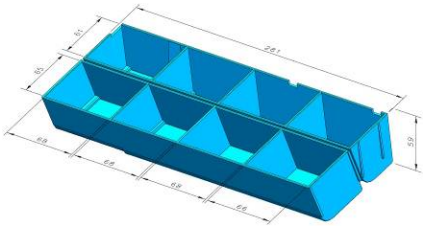
Currency	Quantity (max.)
0,01 €	180
0,02 €	145
0,05 €	100
0,10 €	110
0,20 €	85
0,50 €	65
1,00 €	70
2,00 €	60



KA21



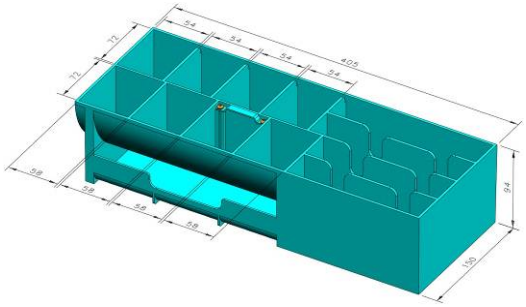
KA17



KA16

Cash Bases Flip Lid 460

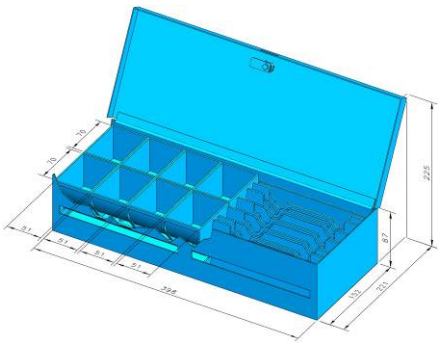
Currency	Quantity (max.)
0,01 €	235
0,02 €	165
0,05 €	130
0,10 €	130
0,20 €	95
0,50 €	70
1,00 €	80
2,00 €	65



Cash Bases Flip Lid 460

Cash Bases Flip Lid 460 Universal

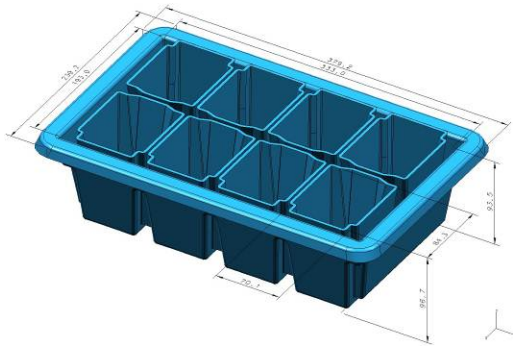
Currency	Quantity (max.)
0,01 €	160
0,02 €	115
0,05 €	90
0,10 €	90
0,20 €	60
0,50 €	45
1,00 €	45
2,00 €	40



Cash Bases Flip Lid 460 Universal

Universal

Currency	Quantity (max.)
0,01 €	465
0,02 €	340
0,05 €	260
0,10 €	265
0,20 €	185
0,50 €	135
1,00 €	155
2,00 €	130



Universal

Currency	Quantity (max.)
0,50 DKK	270
1,00 DKK	300
2,00 DKK	350
5,00 DKK	110
10,00 DKK	150
20,00 DKK	210

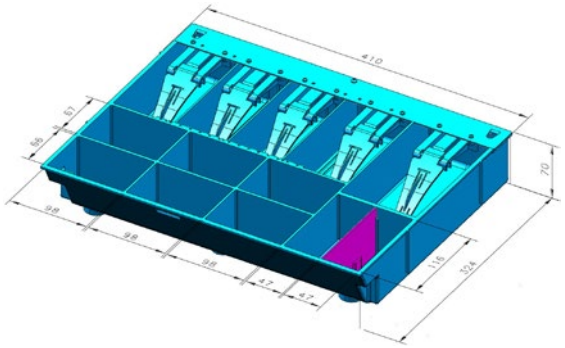
Currency	Quantity (max.)
1,00 NOK	520
5,00 NOK	280
10,00 NOK	330
20,00 NOK	220

Currency	Quantity (max.)
1,00 SEK	640
5,00 SEK	220
10,00 SEK	160

Currency	Quantity (max.)
£0,01	290
£0,02	135
£0,05	365
£0,10	170
£0,20	250
£0,50	140
£1,00	120
£2,00	90

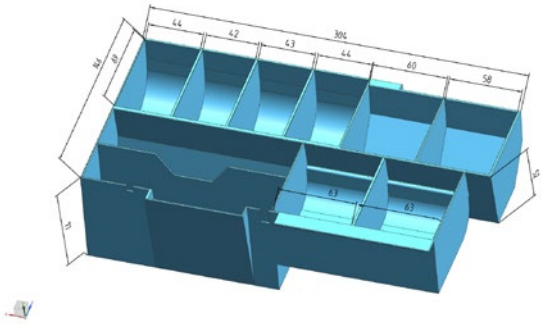
SL3000

Currency	Quantaty (max.)
0,01 €	310
0,02 €	230
0,05 €	185
0,10 €	190
0,20 €	125
0,50 €	115
1,00 €	130
2,00 €	110



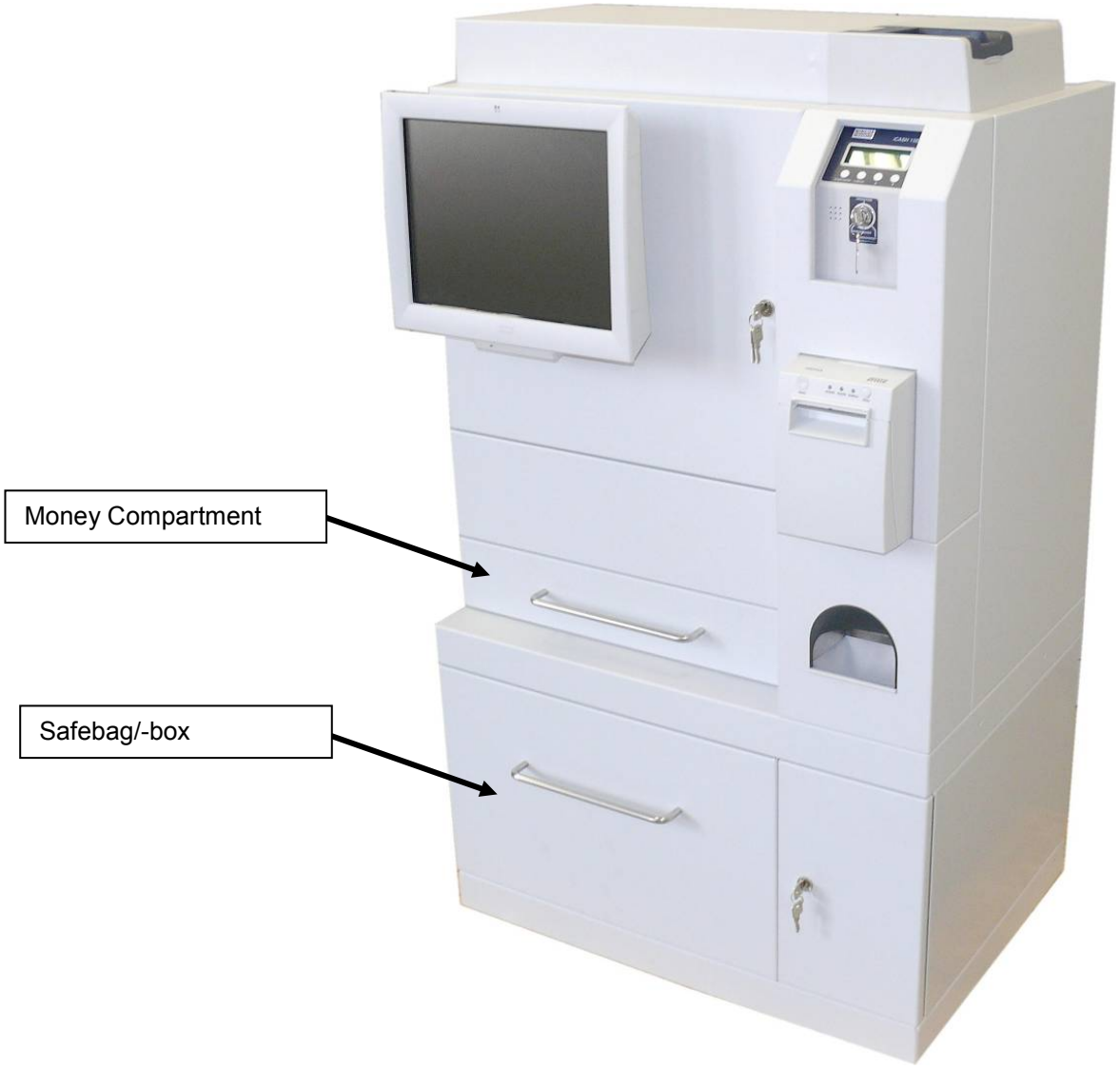
KA-EURO

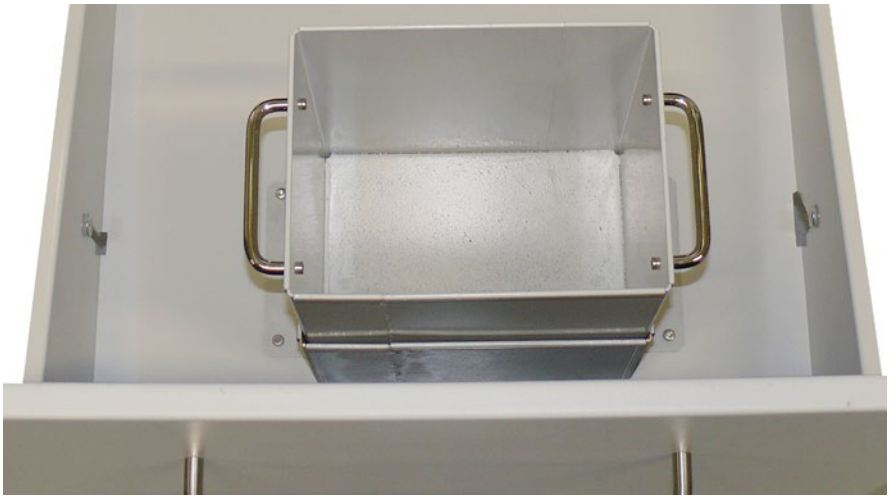
Currency	Quantaty (max.)
0,01 €	150
0,02 €	120
0,05 €	100
0,10 €	80
0,20 €	60
0,50 €	40
1,00 €	60
2,00 €	60



Filling the Safebag (optional)

If this function is available, the whole amount of money can be filled from the hoppers through the funnel into the safety box or into the safebag.





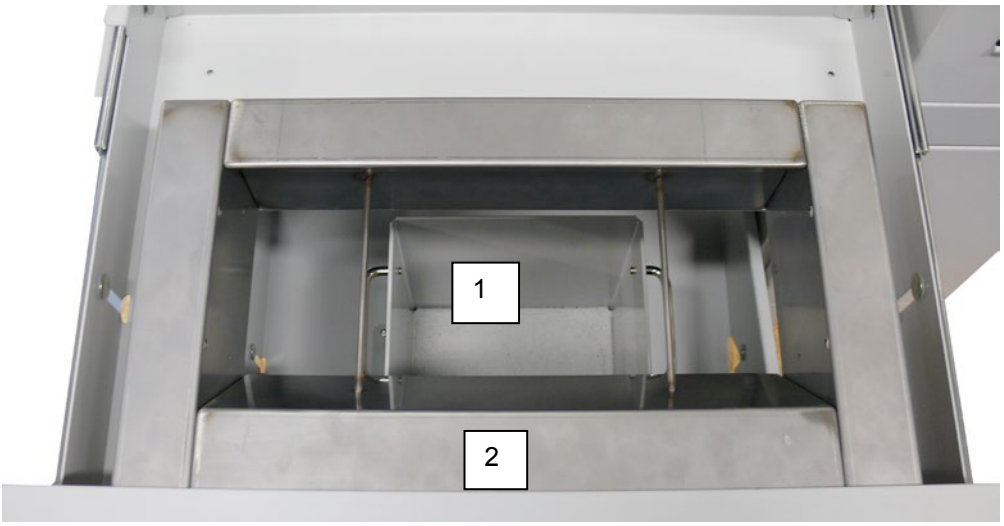
Safety box in the bottom drawer

Bottom drawer: Safebag in safety box

This function will be started by the software application

The holders of the cash drawer are open at the bottom so that money can pass through.Die Funktion wird über die Softwareapplikation gestartet.

Example: KAxx:



1 Safety Box

2 Holder of cash drawer

Printer TH230+

Safety Instructions

Do not touch the cutter and tear bar of the printer.

The print head is a thermal element and it is at high temperature during printing or just after operation, therefore please do not touch it and its peripherals for safety reasons.

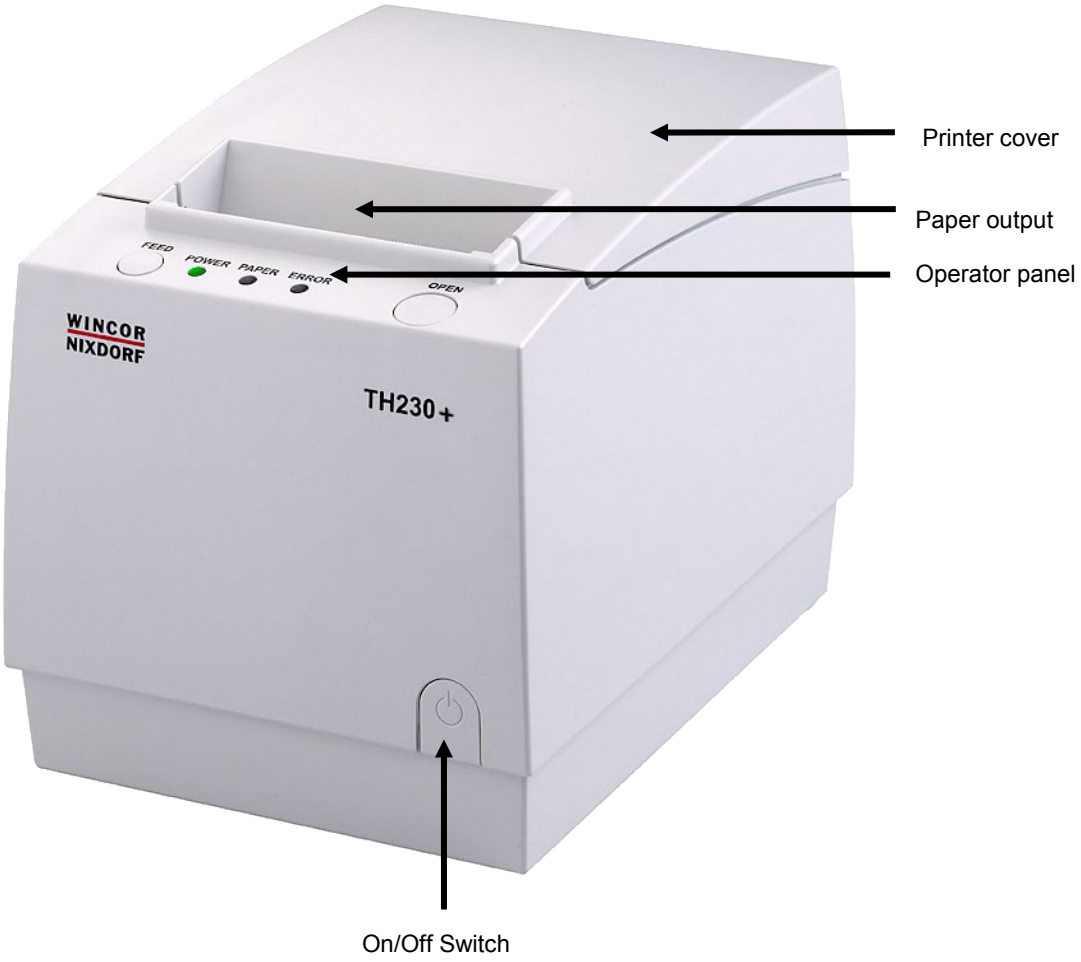
The thermal head is an ESD-sensitive device. To prevent damage, do not touch either its printing part or connecting parts.

Caution:

- Do not allow the printer to start printing when there is no recording paper installed, otherwise the print head and platen roller will be damaged.
- To ensure quality print and normal lifetime, use recommended or good quality paper.
- Shut down the printer when connecting or disconnecting interfaces connectors to avoid damage to the control board.
- Set the print darkness to a lower grade as long as the print quality is acceptable. This will help to keep the print head durable.
- Operate the printer only with power supplies and cables approved by Wincor Nixdorf.
- Keep this manual safe and at hand for ready reference.

Overview

The TH230+ is a powerful and low cost thermal printer for all kind of POS systems.



Operator Panel

FEED

If you push this button once and release it, the printer feeds paper for one line (1/6 inch).

If you push this button and hold it down, the printer feeds the paper as long as the button is not released.

The button can be locked by the application software and then will be without function.

POWER

All LED off:	power is not stable
Green POWER LED on:	power is stable
Green POWER LED blinking:	printing speed may be low (*) if necessary contact your technical support
Green POWER LED flashes:	printer in idle mode

(*) The printer will run with the lowest power value (48W) if a non current power supply unit from Wincor Nixdorf or an external power supply unit without automatic current identification is used. With a suitable power supply unit type the maximal power value can be defined with the configuration menu from 48 Watt up to 90 Watt.

PAPER

Yellow PAPER LED off:	Paper is properly inserted.
Yellow PAPER LED on:	Paper roll is near end.
Yellow PAPER and red ERROR on:	Paper end is reached.

ERROR

Red ERROR LED off:	Normal condition
Red ERROR LED on:	Not ready for operating. Printer cover is not closed or in combination with Yellow PAPER LED on, paper end is reached
Red ERROR LED blinking:	An error occured. Switch off the printer and on again. Contact your technical support if this does not work.

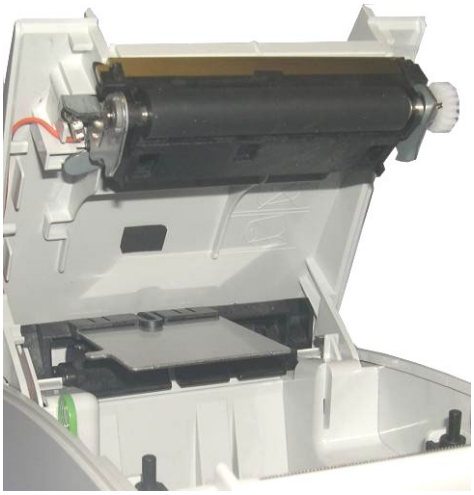
LED overview

	POWER **green**	**PAPER** **yellow**	**ERROR** **red**	**Meaning**
	off	off	off	No power
Operation	on			Power on
	blinking			If necessary call for technical support
	flashing			IDLE mode (power savings)
		off		Paper properly inserted
Paper		on		Paper near end
		on	on	Paper end
Error			blinking	If necessary, call for technical support
			on	Cover not closed

OPEN

Press this button to unlock and open the cover. Thereby, the switch sheet flaps into an upright cover position

Switch Sheet



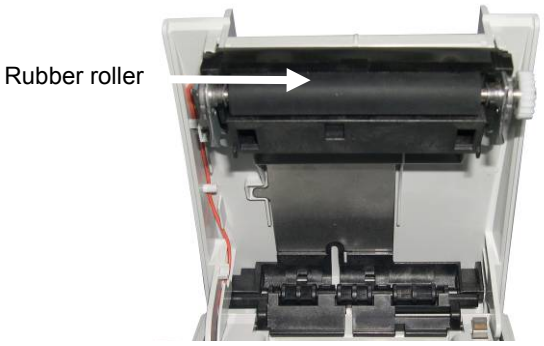
If an error occures do not open the cover with force.

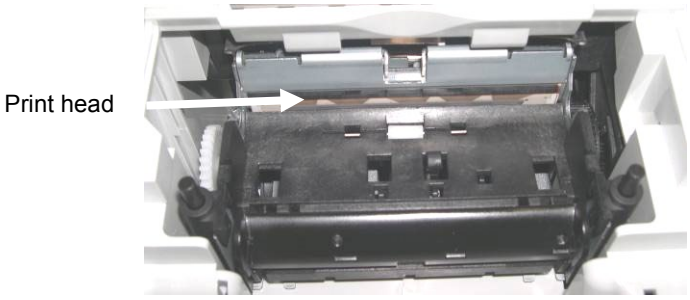
Open the printer cover only if the cutter is in its home position. Otherwise the cutter or the cover may be damaged.

Maintenance of the TH230+

Print Head / Rubber Roller Cleaning

Clean the print head and the rubber roller at least every three months. In case of an intensive use of the printer clean both items more often to guarantee a stable print quality.



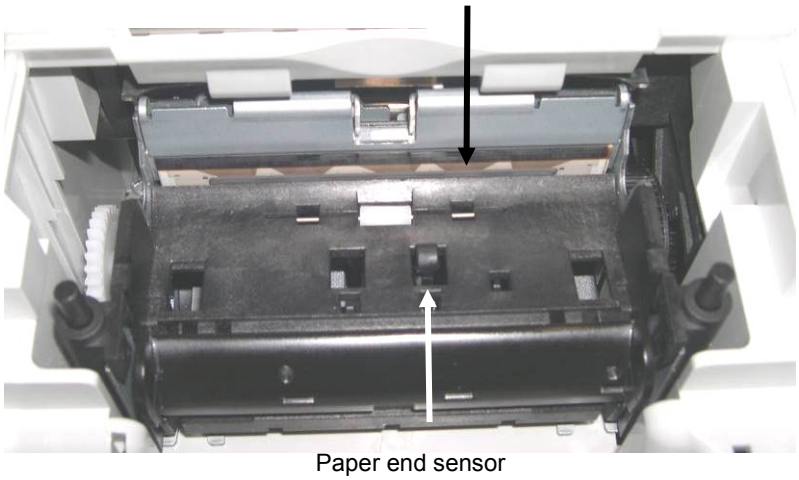


Open the printer cover and remove the paper-roll; the rubber roller and the print head mechanism are then visible.

Let the print head cool down before cleaning it.

Clean print head and rubber roller with a soft lint-free cloth moistened with pure Isopropyl alcohol (e.g. ISOPADS which can be ordered from Wincor Nixdorf).

Visually inspect the print head. If you can still see dirt, the cleaning procedure must be repeated. You can identify the relevant and important thermal element zone by the thin line crossed by wires.



Paper end sensor

Pay attention not to damage the paper end sensor when cleaning the print head.

Do not touch the rubber roll with your fingers.

While cleaning turn the rubber roller by hand with the lateral gear wheel make sure that the entire roller will be cleaned.

Cleaning the print head not properly may cause an early failure.
Wait until the isopropyl alcohol has evaporated.

Insert the (new) paper-roll and close the cover. Print out a test ticket (see application handbook) and verify the printing quality (density, alignment and consistency).

Paper Roll Exchange

For a paper roll exchange follow the steps below:

- Open the printer cover
- Remove the (nearly) empty paper roll and any residual paper.
- If necessary clean the print head and the rubber roller.
- Unwind the outer layer (winding) of the paper roll.

Insert the paper roll.

Lay the unwinded paper over the front edge of the printer.

Hold down the paper and close the printer cover. Press on the middle of the cover until it audibly and distinctly locks into place.

Tear off residual paper at the tear-off edge.

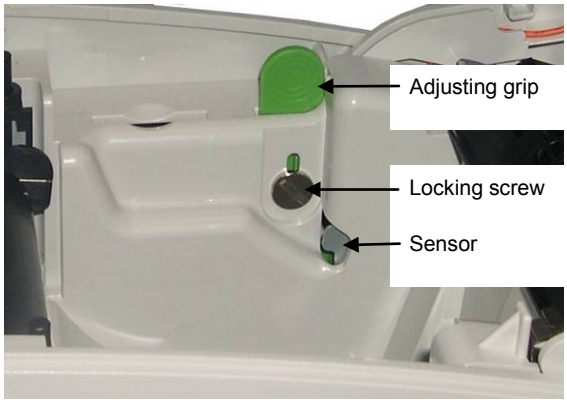
Paper Near End Sensor Adjustment

The paper end premonition is a control function. It allows to adjust a predefined amount of remaining paper on the roll.

The paper end premonition depends on the core diameter and the paper thickness of the paper roll in use.

You can adjust the remaining amount of paper yourself follow the steps below:

- Open the printer cover.
- Remove the paper roll.
- Loosen the locking screw at the inner wall of the printer for instance with the aid of a coin (do not remove the screw).



Move the adjusting grip to determine the remaining paper amount.
A lower distance mark (adjustment grip downwards) will cause a lower amount of remaining paper and vice versa:

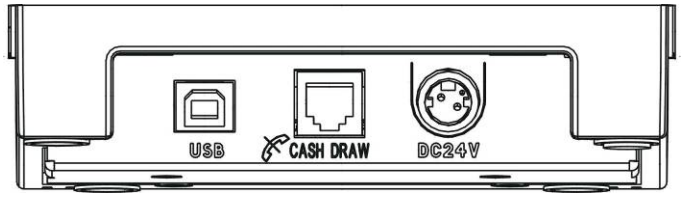
The scale reaches from 0.5mm to 12.5mm.

After determination of the distance mark:

- Tighten the locking screw
- Insert the paper roll
- Close the printer cover and lock it

Connector Variants

USB/CASH DRAW/DC24V



Energy-saving Mode

If the TH230+ is switched on but without a print job it stays in standby mode, which means, that all functions of the printer are powered with low voltage to be ready for operation.

In order to save more energy the printer changes into idle mode after an adjustable waiting time. Under idle condition the least amount of energy will be consumed. The mode will be indicated by flashing of the POWER LED.

If the printer receives print data it will change into full powered printing mode. Having done the print job the TH230 will turn to standby mode and then to idle mode again.

In the delivery status of the printer the function “idle mode” will be deactivated. The function and the according waiting time must be enabled in the configuration menu or via software.

Technical Data

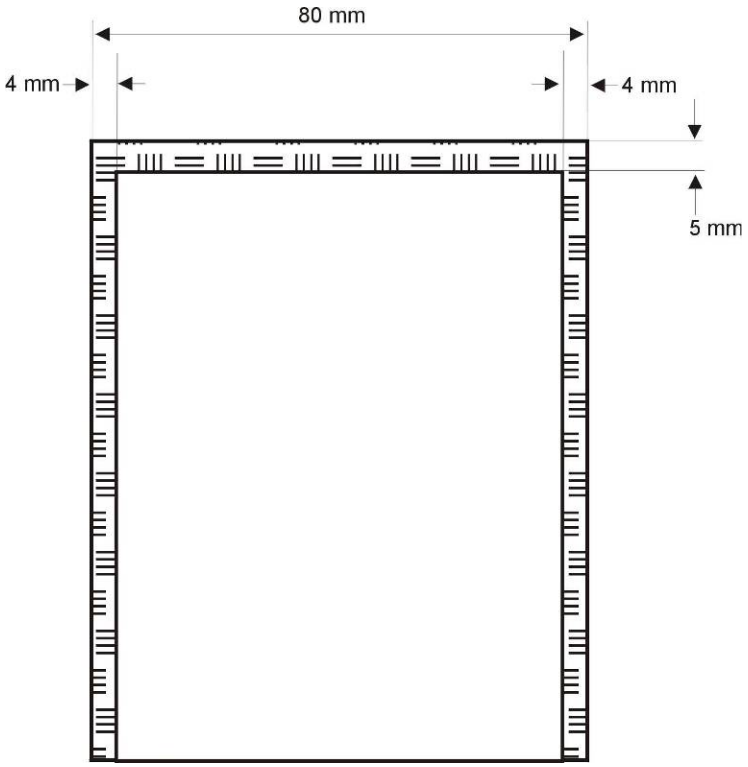
Technology	High-speed thermal print
Resolution	8 dots/mm (203 dpi)
Printing speed	One colour: 220 mm/s, Two colours: 110 mm/s TH230+ draft mode up to 300 mm/s (reduced density)
Cash Drawer Interface	6pin RJ12, 1A@24V max.
Interface Options	USB 2.0 full speed, PoweredUSB, RS232c, Ethernet
Cutter	Material: tempered steel Speed full cut: < 300ms
Paper Transport	Forward; to use paper to full capacity after cutting: up to 12mm backwards (approx. 3.5 lines at 7.52 lpi)
Control Functions	Print head temperature control with adjustment of Print speed Paper near end control and paper end control Paper cutter error message Printer cover open/closed Self test with printout
Option	Paper width 57,5mm, print width =51mm = 408 dot
Housing Colour	light grey or black
Power Supply	24 V DC Automatical and manual capacity control: 48 – 110 Watt
Dimensions	148 x 145 x 195mm (H x W x D)
Weight	approx. 2kg (w/o paper roll)
Features	Simple Paper roll exchange: Optional two colour print with special paper (100mm/sec) Paper near end message: adjustable by user
Statistical Data	Total number of dots Total line feeds Total number of cuts Max. head temperature Paper jam counter Cutter error counter Thermistor error counter High voltage/low voltage error counter Number of firmware updates Power on time in hours Power on counter

Reliability	TH230+ 70 Mio 3 Mio 150 km
Graphic Feature	TH230+ is fully graphic-compliant

Paper Specification

Paper width	79.5mm - 80mm optionally 57.0 - 57,5mm
Paper weight	55g/m² ± 5 g/m²
Paper thickness	0.055mm – 0.08mm
Thermo-Coat	Outside of paper roll
Paper roll outer diameter	90mm max.
Paper roll width	80.3 mm max.
Paper length	~100m
Core size	Core diameter: 10mm +2mm Wall thickness of the core: 2mm ± 0.3mm; Paper end not glued to core. Length of paper fold over at core: max 35mm

Print Area



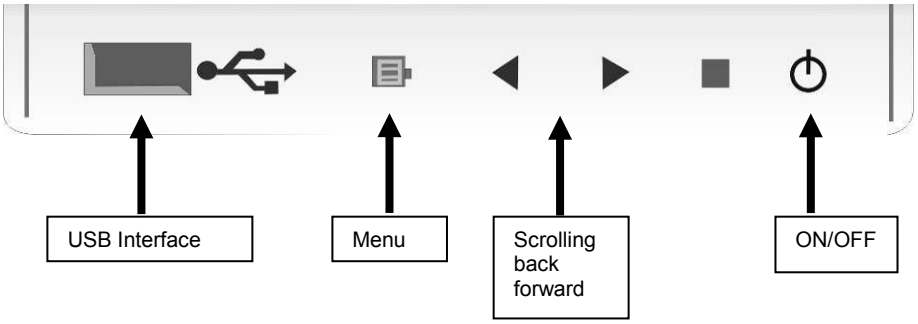
For optional paper width 57,5 mm,
print width =51mm = 408 dot

Display BA83

The TFT LCD flat panel display is an XGA-compatible 15-inch flat panel display which is absolutely flicker free and free from radiation. It is designed for a resolution of max. 1024 x 768 pixel. Application programs should be used with this resolution!

Operator Panel Module

Find the operator panel at the back side of the module (see arrow).



USB Interface

Connect here peripherals during operation, e.g. a keyboard.

On Screen Display

Menu

Via the menu you can set loudness, brightness, contrast or color

Scrolling

The arrows serve for scrolling forwards or backwards in the menu items.

LED (Front Side of the Module)

Dark	Power Off
Green	Power On
Orange	Power save Mode The LED flashes in the standby mode
Red	Out of Range

ON/OFF Button

With this button you can switch off the device.

EPC (Central Unit)

The EPC controlls the peripheral devices like printer, coin module etc.

1 x DC12 V power input port
1 x on/off push button
1 x LED for system status
1 x LED for HDD status
1 x VGA port
1 x DVI port
3 x COM port
6 x USB 2.0
1 x LAN
1x stereo line-out/speaker-out
1x line in

BEETLE /S-II plus

The BEETLE /S-II plus is optional to controll the peripheral devices like printer, coin module etc.

Interface	Connector-Type
COM1	9 pin D-sub male
COM2*	9 pin D-sub female
Keyboard, Mouse	6 pin Mini Din (PS/2)
USB 1, 2	USB-LAN Stack connector 2x USB-A
CRT (via adapter from DVI-I)	15 pin HDD-sub female
PLink (via Bridge)	40 pin Mini Delta Ribbon
DVI	24pin DVI female
LAN	USB-LAN Stack connector RJ45 female
Line Out	3,5 mm female
Microphone	3,5 mm female
USB 6, 7	4+ 4pin Power USB 12V connector
USB 8	4+ 4pin Power USB 24V connector
RMT	4pin RJ10 female

Appendix

Technical Data

Supply Voltage Range	110 – 120 V; 220 – 240 V
Nominal Frequency	50/60 Hz
Data Transmission Port	V.24
Dimensions (H x W x D)	1,274 mm x 750 mm x 530 mm
Weight: without coins with coins	 approx.160 kg approx. 250 kg
Current Consumption Standby (EPC, Cash Module) Replenish Coin Hoppers Electric Current	 350 mA, 67 W 600 mA; 120 W 260 mA

Environmental Requirements

Operating conditions	
Ambient temperature: **Humidity**: **Temperature change**: **Barometric pressure**:	5 °C – 35 °C 5% r.h. (1 g/m³) – 85% r.h. (25 g/m³) 0.5 K/min (max. 7.5K/30 min) 70 kPa
(70kPa corresponds to an installation at approximately 2000 meters above sea level) Installation environments with long periods of sunshine should be avoided	
Storage conditions	
Ambient temperature: **Humidity**: **Temperature change**:	5 °C – 40 °C 5% r.h. (1 g/m³) – 85% r.h. (25 g/m³) 0.5 K/min 0.5 K/min (max. 7.5K/30 min)
Transport conditions	
Ambient temperature: **Humidity**: **Temperature change**:	-25 °C – 60 °C 15% r.h. (1 g/m³) – 98% r.h. (32 g/m³) -25 °C / 25 °C

Approved Cleaning Materials: Order Numbers

The items listed below can be ordered from Wincor Nixdorf branch office or your Wincor Nixdorf sales partner.

Product Name	Order Number	Explanation
Cleaning set for EDP devices: 125ml plastic cleaner w/o alcohol 125ml TFT/LCD/screen cleaner 35 dust cloths 3 keyboard swabs for places difficult to reach 1 keyboard sponge	01750097335	For cleaning and maintaining keyboards and varnished and plastic-coated housing
Damp cleaning cloths Dispenser box with 100 cloths	01750097332	**Alcohol**-based solution for cleaning and maintaining delicate EDP devices, keyboards and housing. Not suitable for cleaning conveyer belts!
Damp cleaning cloths Antistatic and fluff free Dispenser box 60 cloths	01750097334	For cleaning display panes
Compressed air spray PRESSAIR 400ml bottle w/o valve, 70cm hose	01750097331	Cleaned compressed air, CFC-free, for removing loose dust and dirt particles
Cloth with ISOPROPYL 1000 pieces	01750104065	Pure isopropyl **alcohol** for cleaning coin validator, displays etc. Not suitable for cleaning conveyer belts!
Cleaning card	01750016388	For cleaning magnetic heads and chip contacts in ID card readers
Cleaning brush set 1x brush incl. 20xcleaning cloth with ISOPROPYL	01770037265	For cleaning the coin validator

Please follow the manufacturer’s specifications on the packaging and on the information sheet included in the packaging. The product may be damaged or soiled if materials are used that are not approved or if used improperly.

Certifications of the manufacturer

This device complies with the requirements of EEC directive 2004/108/EEC with regard to "Electromagnetic Compatibility" and 2006/95/EEC, "Low Voltage Directive".

Therefore, you will find the CE mark on the device or on its packaging.

CINEO C1020 has received the CSA symbol.

Note on Radio Interference Suppression

All secondary appliances that are connected to an appliance must be equipped with radio interference suppression in accordance with EC directive 89/336/EEC. Products that fulfill this requirement are accompanied by an appropriate manufacturers certificate bear the CE-symbol or the radio protection symbol. Products that do not fulfill these requirements may only be operated with specific permission of the relevant authorities.

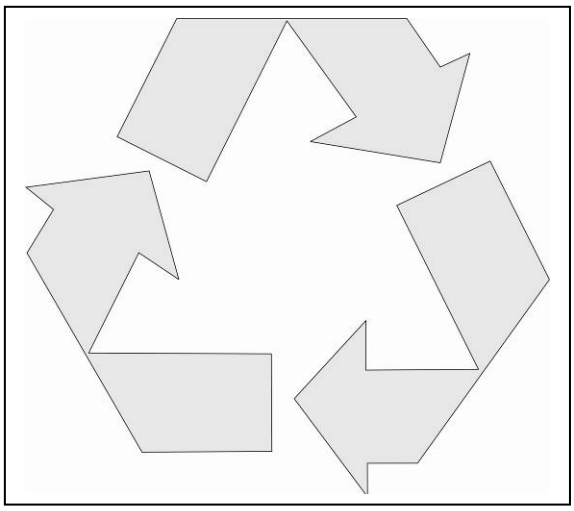
FCC-Class A Declaration

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful inter-ference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications not authorized by the manufacturer may void users authority to operate this device. This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numerique de la classe A est conforme à la norme NMB-003 du Canada.

Recycling the CINEO C1020



CINEO C1020 was designed according to the Wincor Nixdorf standard "Environmentally Conscious Product Design and Development".

CINEO C1020 is manufactured without the use of CFCs and CCHs and is manufactured to a great extent out of materials and components which are recyclable.

For recycling purposes do not attach any additional adhesive labels to the device.

Wincor Nixdorf disposes of old devices in an environmentally responsible manner at a recycling center that is ISO 9001 and ISO 14001 certified, as is the entire company.

Follow your local regulations on the disposal of toxic waste.

Your Wincor Nixdorf vendor will answer any questions you have concerning returns, recycling, and disposal of our products.

Wincor Nixdorf International GmbH
D-33094 Paderborn

Order No.: ***01750222636E***